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Hunting DDT in Small Birds: Migratory Fowl Could Be a Link between Pesticides and Hawks, Falcons

HUNTING DDT IN SMALL BIRDS

Migratory fowl could be a link between pesticides and hawks, falcons

N.S.F. Release

Migratory birds—vireos, buntings, warblers, catbirds, olive-backed thrushes and others—appear to be a way-station on the route of persistent pesticides up through the environment.

They are the ones that take up pesticides like DDT in the insects and grain they eat off sprayed land. They concentrate it in the fatty parts of their bodies. It is further concentrated in the bodies of carnivorous birds further up the food chain.

Whether or not the migratory birds are being harmed by the pesticide burdens they carry is not yet known.

It is known, however, that ospreys, brown pelicans, peregrine falcons, bald eagles and other meat- and fish-eating birds are already in serious trouble as a result of the effects of pesticides on their life and reproductive processes. For one thing, the chemical concentration in their bodies appears to interfere with their ability to lay eggs with shells strong enough to insure that young will hatch.

But except for an occasional look at starlings, grebes and robins, little attention has been paid so far to the terrestrial migratory birds in the ecological slots between the carnivores at the top and insects at the bottom of the food chain.

These birds, says Dr. David W. Johnston, associate professor of zoology at the University of Florida, Gainesville, are probably an intermediate step in the ecological concentration of pesticides. In addition, because they burn up their fat as they migrate, they can also be a clue to what happens to pesticides working their way through the body's biochemical systems.

The assortment of "before" and "after" migratory birds necessary to prove his theses has been virtually dropped into his lap. He has found a collection of preserved birds, killed either as they just started or just finished their biennial migrations, dating back almost a decade. He got them from television tower personnel in Tallahassee and Jacksonville. They for years have been picking the birds up where they fell dead after colliding with the television towers, and giving them to amateur taxidermists, museums, schools and other collectors.

"They'd been collecting them for 15 years," says Johnston. "And we had some in the lab freezer. So when I thought about the pesticides, I saved some from the mounters and the skeleton makers."

Johnston, whose research is supported by the National Science Foundation, is beginning to check the bodies of fat birds downed as they started south in the autumn and lean ones at the end of their journey, being collected on Grand Cayman Island in the Caribbean where many of the birds winter over. Northbound journey's-end birds can be collected in the spring, at the base of the television towers; spring starters may be collected in Jamaica.

Johnston wants to see where in the birds' bodies the pesticide goes once the fat in which it is usually stored is consumed. "I intend to check several tissues," he says.

"If they use up the fat, the pesticides may go to muscles or to the central nervous system. If it gets into the central nervous system, it can affect the fatty materials around the nerve cells and could be fatal."

Johnston also expects to compare the concentration of the chemicals in the bodies of migratory birds and of falcons further up the food chain; he will also compare southbound birds, who fattened in the pesticide-rich fields of North America, with their northbound cousins fattened "organically" in the Caribbean.

Inexpensive Materials

A multicolored map from the National Earthquake Information Center shows which areas of the world can be considered earthquake prone. About 42,000 earthquake centers have been plotted. Write to: World Seismicity, 1961-69, Distribution Division, NOAA Coast and Geodetic Survey, Rockville, Maryland 20852. The price is 75 cents.

Available from the National Audubon Society Bay Area Educational Services: eight Audubon Games (printed on small folders) that teach environmental awareness: *You Are a Walking Laboratory* (experiment); *Continuity Game* (the end is the beginning); *Question: There Are How Many Sides to Each Coin?* (things have dimensions you might never imagine); *Change Game* (change is everywhere, always); *They Are All Around You* (be aware); *Habitat Game* (can we do without ours?); *Right Angle Game* (what's right about it?); and *Point of View Game* (what's yours?). One *Perception Set* (all eight games), 25 cents; five sets, $1.06; 25 sets, $4.75. Order from Golden Gate Audubon Society, 1749A Grove Street, Berkeley, California 94709.

WRITE

Teaching Conservation and Natural Science in the Outdoors. Single copies available, State Department of Conservation, Conservation Education, 1416 9th Street, Sacramento, California 95814.

Free and Inexpensive Teaching Aids for Science Education. A 55-page booklet, Publications Office, Chicago State College, 6800 South Stewart Avenue, Chicago, Illinois 60621.

Career Opportunities in Laboratory Animal Science, from American Association for Laboratory Animal Science, P.O. Box 10, Joliet, Illinois 60434.

Bird Believed Extinct Is Sighted in Hawaii

The Kauai O'o, a bird believed extinct since 1964, was located deep in Hawaii's Alakai Swamp by a biologist with the Fish and Wildlife Service's endangered species program, who found a nesting pair with two young.

The Kauai O'o (*Moho braccatus*) is the last surviving species of four species of famous Hawaii O'o's which were sought for the yellow feathers used in native robes.

Biologist John L. Sincock used a helicopter to penetrate into the tropical rain forests near Mt. Waialeale, where he found and photographed the rare birds in their nests.

The O'o is a slender, sooty bird with a slightly downcurved black bill, white-streaked throat, yellow thighs, white wing patch and pointed tail.